ABSTRACT

Different levels of service are provided to different types of traffic within a single virtual circuit (VC) by converting the traffic from fixed-length cells to variable-length packets, classifying the packets based on information in the packet headers, associating the packets with a VC, and then implementing class-specific enqueuing and dequeuing of the classified packets on a per-VC basis. Classified packets are dequeued from VC-specific and class-specific queues into VC-specific segmentation and re-assembly (SAR) queues according to an algorithm that is a function of traffic class. The dequeuing algorithm determines the level of service that is provided to the different classes of traffic within each VC. Packets are dequeued from the VC-specific SAR queues and converted back to fixed-length cells according to an algorithm that arbitrates among multiple VC-specific SAR queues. The technique for managing traffic can be carried out within an Ethernet switch/router that includes input and output ATM interfaces.